



First records of the Chihuahuan Black-headed Snake, *Tantilla wilcoxi* Stejneger, 1902 (Squamata: Colubridae), in the Mexican state of Jalisco

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Abstract: Based on three specimens, we document the occurrence of *Tantilla wilcoxi* in the Mexican state of Jalisco. This species was found at two localities, 2.9 km apart, both in the ecotone between xerophytic scrub and oak forest in the arid plains of the municipality of Ojuelos de Jalisco in the north-eastern portion of the state.

Key words: geographic distribution, Colubrinae, Ojuelos de Jalisco

The genus *Tantilla* is comprised of 62 species distributed in North, Central, and South America; it is the second largest snake genus in the Western Hemisphere (Wilson and Mata-Silva 2014). In Mexico 30 species occur, making this country the center of diversity for the genus (Wilson and Mata-Silva 2014). *Tantilla wilcoxi* is a small snake reaching 36 cm total length. It has a black head bordered posteriorly by a white collar; the color of the dorsum is light brown or yellowish brown and the belly is white gradually becoming bright orange posteriorly (Liner 1983). This primarily Mexican species has been previously recorded from the states of Aguascalientes, Chihuahua, Coahuila, Durango, Nuevo León, San Luis Potosí, Sinaloa, Sonora, and Zacatecas, between elevations of 914 and 2438 m (Liner 1983; Vázquez-Díaz and Quintero-Díaz 2005; Enderson *et al.* 2009; Valdez-Lares *et al.* 2013; Wilson and Mata-Silva 2014). A disjunct population occurs in the United States in extreme southern Arizona, which includes the holotype of the species collected from Fort Huachuca, Cochise County.

Currently 124 species of reptiles have been listed for the state of Jalisco, comprised by one crocodile, nine turtles, 44 lizards, and 70 snakes (Uetz and Hošek 2014). However, the reptilian fauna of the northeastern portion of the state still remains relatively unknown. We are only aware of one published herpetofaunal inventory near the plains of the municipality of Ojuelos de Jalisco (Riojas-López and Mellink 2006). Herein we present locality data for three specimens of

Tantilla wilcoxi collected during herpetological surveys on the arid plains of the municipality of Ojuelos de Jalisco. Institutional acronyms are those listed in Sabaj-Pérez (2013), with the addition of La Sierra University Digital Photo Collection (LSUDPC).

During a field trip on July 2009, we (RACM, JCAM and ZYGS) found an adult specimen of *T. wilcoxi* in a rock crevice in the foothills of Mesa Las Preñadas plateau, municipality of Ojuelos de Jalisco, ca. 3 km SW of Las Negritas, Asientos, Aguascalientes (21.96226° N, 101.891364° W, WGS84; 2,200 m elevation). Four years later on July 2013, CMGB returned to the same locality and found an adult male of *T. wilcoxi* (Figure 1) at ca. 12:30 h inactive beneath a Sotol plant (*Dasyliion acrotrichum*) along with a lizard *Sceloporus spinosus*. However, because we mistakenly assigned this locality to the state of Aguascalientes rather than Jalisco, while we were doing the herpetological surveys, we released both specimens immediately after photos were taken. Photo vouchers were subsequently submitted to the La Sierra University Digital Photo Collection (LSUDPC 8018 and 8019).



Figure 1. Adult male of *Tantilla wilcoxi* (LSUDPC 8018), from Ojuelos de Jalisco, Jalisco México.

On a third specimen found by RACM and GEQD on February 2014 we realized the locality does lie within the state of Jalisco and, therefore, all the collected specimens represent new state records. The third specimen of *T. wilcoxi* was caught around 12:20 h under a rock next to a Lechuguilla plant (*Agave filifera*) in the same foothills of Mesa Las Preñadas plateau (21.937229° N, 101.884915° W, WGS84; 2337 m elevation); it is a juvenile measuring 11.8 cm in snout–vent length, and 15.0 cm in total length with a weight upon capture of 0.83 g (Figure 2). It was deposited in Universidad Autónoma de Aguascalientes Colección de Vertebrados (voucher UAACV-R 264) and identified by the collection manager J. Jesús Sigala Rodríguez. The vegetation in the foothills of Mesa Las Preñadas plateau consists of an ecotone between xerophytic scrub forest and oak forest, represented by associations of xeric plant species such as *Prosopis laevigata*, *Ferocactus histrix*, *Opuntia streptacantha*, *Dasyliion acroctrichum*, *Agave filifera*, *Yucca filifera*, and *Dodonaea viscosa*, with interspersed *Quercus resinosa* and *Q. potosina* oaks (Rosales-Carrillo 2008).

Together the new records fill a distributional gap for *Tantilla wilcoxi* between the states of San Luis Potosí and Aguascalientes (Figure 3). The three specimens found are from two localities 2.9 km from each other, and together extend the range of this species *ca.* 38 km (in a straight line) southeast from Tepezala, Aguascalientes, 71 km (in a straight line) southwest from 1.5 mi (by road) east San Luis Potosí



Figure 2. Juvenile of *Tantilla wilcoxi* (UAACV-R 264) found at 2.9 km SE from the specimen LSUDPC 8018.

border along MX 49, in Zacatecas (voucher UAZ 38037), and 112 km (in a straight line) west of San Luis Potosí (voucher LACM 114069) (Liner 1983; Vázquez-Díaz and Quintero-Díaz 2005; HerpNet 2014).

Four species of *Tantilla* are known otherwise from the state of Jalisco, including *T. bocourtii*, *T. calamarina*, *T. cascadae*,

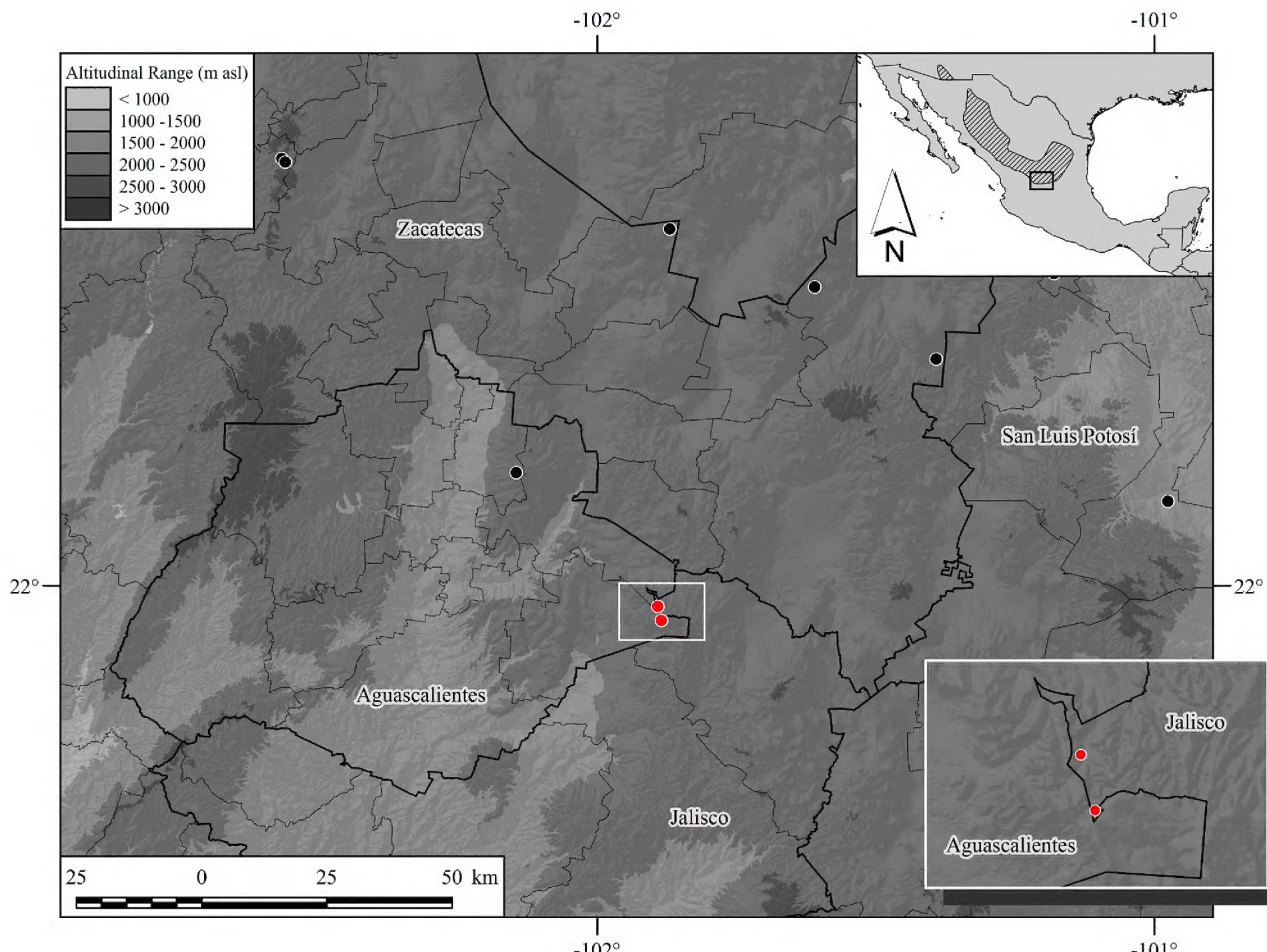


Figure 3. Collecting localities for *Tantilla wilcoxi* across its southeastern geographic distribution in México; red circles represent the new records for Jalisco state, and black circles additional recorded localities. The hatched area represents the distribution of *T. wilcoxi* according to the IUCN Red List of Threatened Species (Hammerson et al. 2007).

and *T. ceboruca* (Wilson and Mata-Silva 2014). The last three species, all members of the *calamarina* group, can be distinguished easily from *T. wilcoxi* in having a dorsal body pattern consisting of dark stripes on a paler background, in contrast with the body dorsal pattern of *T. wilcoxi* consisting of light brown or yellowish brown without stripes. In addition, members of the *calamarina* group have a head pattern consisting of a pair of pale parietal spots, whereas *T. wilcoxi* presents a distinct black or dark brown head cap extending posteriorly to end abruptly near the tips of the parietals followed by a white nape band two scales wide. *Tantilla wilcoxi* more closely resembles *T. bocourti*, but the two can be readily distinguished from one another by the non-overlapping number of ventral scales (135–161 in the former and 164–195 in the latter), (Liner 1983; Wilson and Mata-Silva 2014). With the addition of *T. wilcoxi*, the number of recorded reptiles for the state of Jalisco increases to 125 species (Uetz and Hošek 2014).

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LITERATURE CITED

Enderson, E.F., A. Quijada-Mascareñas, D.S. Turner, P.C. Rosen and R.L. Bezy. 2009. The Herpetofauna of Sonora, Mexico, with comparisons to adjoining states. *Check List* 5(3): 632–672 (<http://www.checklist.org.br/getpdf?SL122-08>).

Hammerson, G.A., J. Vázquez-Díaz and G.E. Quintero-Díaz. 2007. *Tantilla wilcoxi*, IUCN Red List of Threatened Species, version 2013.2. Accessible at <http://www.iucnredlist.org> Retrieved on 20 February 2014.

HerpNet. 2014. HerpNet2 Portal. Accessible at <http://www.herpnet.org>. Retrieved on 20 February 2014.

Liner, E. A. 1983. *Tantilla wilcoxi*. Catalogue of American Amphibians and Reptiles 345: 1–2 (<http://www.zenscientist.com/index.php/filedrawer/Open-Access-Journals/caar/Tantilla-wilcoxi>).

Rojas-López, M. and E. Mellink. 2006. Herpetofauna del rancho Las Papas, Jalisco, llanuras de Ojuelos-Aguascalientes, México. *Acta Zoológica Mexicana* (n.s.) 22(3): 85–94 (http://www1.inecol.edu.mx/azm/documentos/22_3/H-Rojas.pdf).

Rosales-Carrillo, O. 2008. Matorral; pp. 89–91, in: Ávila-Villegas, Melgarejo and Cruz-Angón (eds.). La Biodiversidad en Aguascalientes: Estudio de Estado. Aguascalientes: CONABIO/IMAE/UAA (<http://www.biodiversidad.gob.mx/region/EEB/pdf/ESTUDIO%20DE%20BIODIVERSIDAD%20EN%20AGUASCALENTES.pdf>).

Sabaj-Pérez, M.H. 2013. Standard symbolic codes for institutional resource collections in herpetology and ichthyology: an online reference, version 4.0. Accessible at <http://www.asih.org>. Captured on 8 February 2014.

Uetz, P. and J. Hošek. 2014. The Reptile Database. Accessible at <http://www.reptile-database.org>. Retrieved on 8 February 2014.

Váldez-Lares, R., R. Muñiz-Martínez, H. Gadsden, G. Aguirre-León, G. Castañeda-Gaytán and R. González-Trapaga. 2013. Checklist of amphibians and reptiles of the state of Durango, México. *Check List* 9(4): 714–724 (<http://www.checklist.org.br/getpdf?SL027-13>).

Vázquez-Díaz, J. and G.E. Quintero-Díaz. 2005. Anfibios y Reptiles de Aguascalientes. Second Edition. Aguascalientes: CONABIO/CIEMA. 318 pp.

Wilson, L. D. and V. Mata-Silva. 2014. Snakes of the genus *Tantilla* (Squamata: Colubridae) in Mexico: taxonomy, distribution, and conservation. *Mesoamerican Herpetology* 1(1): 1–95 (http://www.mesoamericanherpetology.com/uploads/3/5/0/0/3500871/wilson_and_mata-silva_paper.pdf).

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